

ATTACHMENT A

1. (Once Amended) A mems transducer [microphone package] comprising:
 - a printed circuit board comprising a plurality of layers, at least one layer comprising a conductive material and at least one layer comprising an insulating material;
 - a cover comprising a conductive layer, the printed circuit board and the cover forming at least a portion of a housing, the housing comprising an aperture for receiving a signal and an inner lining for providing a shield against an electromagnetic interference, the inner lining comprising the conductive layer and the at least one layer of a conductive material; and
 - a transducer unit mounted within the housing.
2. (Once Amended) The mems transducer [microphone package] of Claim 1 further comprising a spacer member between the printed circuit board and the cover, the spacer member cooperating with the printed circuit board and the cover to form the housing, the spacer member comprising a sidewall at least partially covered by a conductive material, the conductive material providing a portion of the inner lining.
3. (Once Amended) The mems transducer [microphone package] of Claim 2 further comprising a first layer of conductive adhesive for joining the spacer member to the cover.
4. (Once Amended) The mems transducer [microphone package] of Claim 3 further comprising a second layer of conductive adhesive for joining the spacer member to the circuit board.
5. (Once Amended) The mems transducer [microphone package] of Claim 1 further comprising an [a] environmental barrier located within the aperture.
6. (Once Amended) The mems transducer [microphone package] of Claim 5 wherein the aperture is within the cover, the cover comprising a nonconductive layer for providing the environmental barrier.

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7. (Once Amended) The mems transducer [microphone package] of Claim 5 wherein the aperture is located within the cover, the cover comprising a polymeric layer for providing the environmental barrier.
8. (Once Amended) The mems transducer [microphone package] of Claim 5 wherein the aperture is located within the printed circuit board, the printed circuit board comprising a polymeric layer for providing the environmental barrier.
9. (Once Amended) The mems transducer [microphone package] of Claim 5 wherein the environmental barrier comprises a polymeric material.
10. (Once Amended) The mems transducer [microphone package] of Claim 9 wherein the polymeric material is a film.
11. (Once Amended) The mems transducer [microphone package] of Claim 10 wherein the film comprises a polytetrafluoroethylene.
12. (Once Amended) The mems transducer [microphone package] of Claim 1 wherein the conductive material comprises copper.
13. (Once Amended) The mems transducer [microphone package] of Claim 1 wherein the printed circuit board comprises a plurality of layers of a conductive material and a plurality of layers of an insulating material.

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14. (Once Amended) The mems transducer [microphone package] of Claim 13 wherein one of the plurality of layers of a conductive material comprises a pair of lead pads for electrical connection to the transducer unit.

15. (Once Amended) The mems transducer [microphone package] of Claim 14 wherein one of the plurality of layers of a conductive material provides a first electrical ground plane.

16. (Once Amended) The mems transducer [microphone package] of Claim 15 wherein one of the plurality of layers of a conductive material provides a second electrical ground plane.

17. (Once Amended) The mems transducer [microphone package] of Claim 16 wherein the first and second ground planes are electrically connected to the pair of lead pads.

18. (Once Amended) The mems transducer [microphone package] of Claim 17 wherein one of the plurality of layers of a conductive material comprises a pair of connectors for electrical connection to an external transducer.

19. (Once Amended) A mems transducer [microphone package] comprising:
a transducer unit; and

a housing substantially covering the transducer unit and providing protection against an electromagnetic interference, the housing comprising a first layer of a non-conductive material and a second layer of a conductive material substantially covering the first layer, the second layer substantially forming an inner lining of the housing, the housing further comprising an aperture for receiving a signal into the housing.

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20. (Once Amended) The mems transducer [microphone package] of Claim 19 further comprising a third layer of a non-conductive material, the third layer substantially covering the aperture for providing an environmental barrier.

21. (Once Amended) The mems transducer [microphone package] of Claim 20 wherein the third layer comprises a polymeric material.

22. (Once Amended) The mems transducer [microphone package] of Claim 21 wherein the polymeric material is a polytetrafluoroethylene.

23. (Once Amended) The mems transducer [microphone package] of Claim 19 further comprising a retaining ring, the transducer unit engaging the retaining ring.

24. (Once Amended) A silicon mems transducer [condenser microphone package] comprising:
a transducer unit;

a substrate including an upper surface having a recess formed therein, the transducer unit attached to the upper surface of the substrate overlapping at least a portion of the recess wherein a back volume of the transducer unit is formed between the transducer unit and the substrate; and

a cover placed over the transducer unit, the cover including an aperture.

25. (Once Amended) A silicon mems transducer [condenser microphone package] comprising:
a transducer unit;

a substrate including an upper surface for supporting the transducer unit;

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a cover placed over a portion of the substrate, the cover comprising an aperture and an inner surface, a portion of the inner surface comprising a metallic material for shielding the transducer unit from an interference signal.

26. (Once Amended) A mems transducer [microphone package] comprising:

a transducer unit;

a substrate including an upper surface for supporting the transducer unit;

a cover sealed over a portion of the substrate, the cover having an aperture for receiving a signal and an inner surface comprising a shielding material for protecting the transducer from an interference signal.

27. (Once Amended) A mems transducer [microphone package] comprising:

a transducer unit;

a substrate comprising a layer of an insulating material and a layer of conductive material, the substrate further comprising a surface for supporting the transducer unit;

a cover placed over a portion of the substrate; the cover comprising a shielding material for protecting the transducer from an interference signal.

28. (Once Amended) A mems transducer [microphone package] comprising:

a printed circuit board comprising a first insulating layer and a first conductive layer;

a transducer unit supported by the printed circuit board; and

a cover over a portion of the printed circuit board and forming a housing therewith for protecting the transducer unit, the cover comprising an aperture, a second insulating layer, and a second conductive layer, a portion of the second conductive layer exposed to a conductive spacer

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and electrically connected to a ground via the conductive spacer [the transducer] for shielding the transducer from an interference signal.

29. (Once Amended) A mems transducer [microphone package] comprising:

a printed circuit board comprising a first insulating layer, a first conductive layer, and an aperture;

a transducer unit; and

a cover over a portion of the printed circuit board and forming a housing therewith for protecting the transducer unit, the cover comprising a second insulating layer and a second conductive layer, a portion of the second conductive exposed to a conductive spacer and electrically connected to a ground via the conductive spacer [the transducer] for shielding the transducer from an interference signal.

30. (Once Amended) A mems transducer [microphone] housing for a silicon mems transducer [condenser microphone], the mems transducer [microphone] housing comprising:

an inner lining for providing a shield from an electromagnetic interference, the inner lining comprising an aperture adapted for receiving an acoustic [a] signal;

a printed circuit board comprising a first insulating layer and a first conductive layer, the first conductive layer forming at least a portion of the inner lining; and

a cover comprising a second conductive layer forming at least a portion of the inner lining.

31. (Once Amended) A method of producing a mems transducer [microphone package], the method including the steps of:

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providing a housing comprising a first layer of a non-conductive material, an inner lining comprising a conductive material substantially covering the non-conductive material, and an aperture for receiving an acoustic signal;

providing a transducer unit; and

mounting the transducer within the housing wherein the inner lining provides an electromagnetic interference protection to the transducer unit.

Please add the following claims:

- - 39. (Added Claim) The mems transducer of Claim 3 wherein the conductive adhesive may or may not form a continuous gasket between the spacer member and the cover. - -

- - 40. (Added Claim) The mems transducer of Claim 4 wherein the conductive adhesive may or may not form a continuous gasket between the spacer member and the circuit board. - -